

POW: Illuminating Lines

When solving the following problem, be sure to:

- 1) **Restate the Question**
- 2) **State your answer in a complete sentence (reference the question).**
- 3) **Show work and/or explain solution strategy**

Part 1

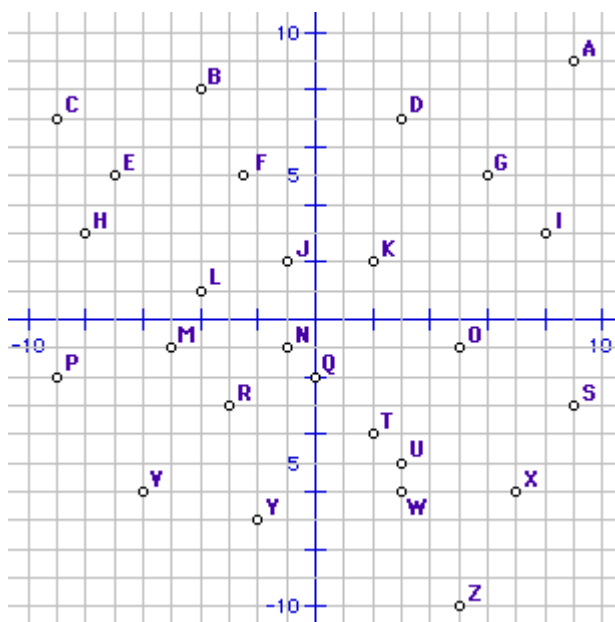
Consider these three statements:

- a. The y-coordinate is equal to the x-coordinate.
- b. The y-coordinate is the negative of two times the x-coordinate.
- c. The y-coordinate is two less than the negative of the x- coordinate.

For each statement,

1. identify all of the points in graph 1 which fit the statement.
2. write the equation of the line that matches each statement and the corresponding points.

Be sure to thoroughly explain your answers to each part and to include the coordinates of the points.



graph 1

- 4 The answer and the bonus are correct, you have included all your calculations, and the explanation is thorough and understandable.
- 3 The answer is correct, you have included all your calculations, and the explanation is complete and clear to the reader.
- 2 The answer is missing one of the items mentioned above.
- 1 The answer is incorrect, and the explanation or calculations are poor or missing.
- 0 Minimal or no effort was made to solve the problem.
- All late work is marked down a grade.

Part 2 is on the back!

Part 2

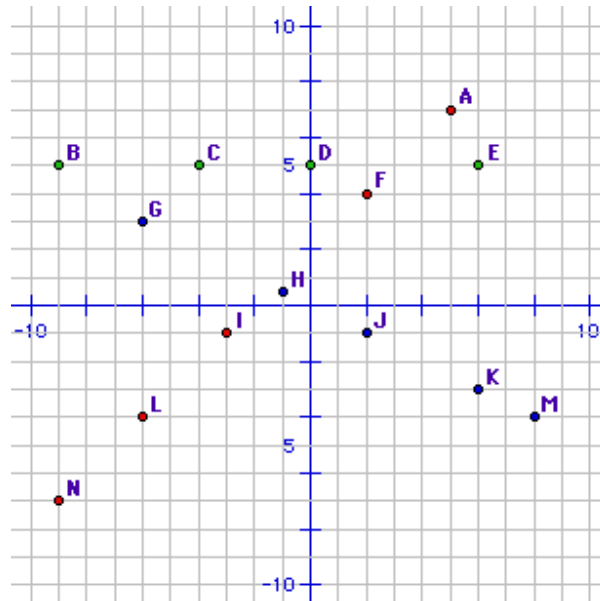
Consider these sets of points from graph 2 (If you want to see them in color, check my homework web site.):

- red: A, F, I, L, N
- blue: G, H, J, K, M
- green: B, C, D, E

For each set,

- write a statement (as in part 1).
- write the equation of the line that matches each statement and the corresponding points.

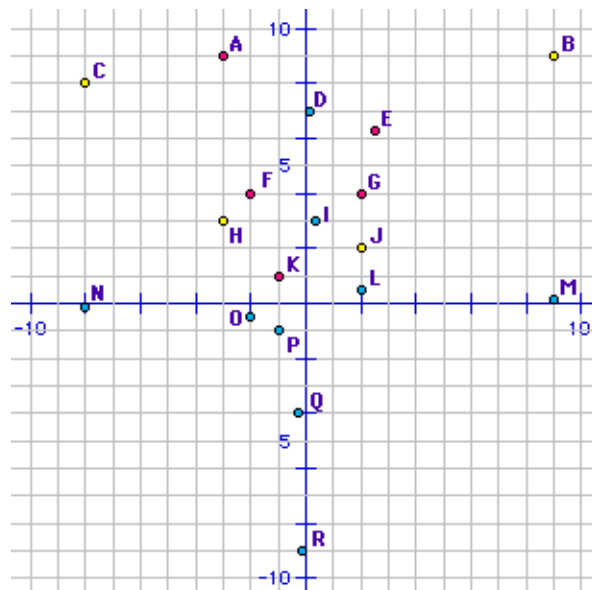
Be sure to thoroughly explain your answers to each part and to include the coordinates of the points.



graph 2

Extra: Write similar statements and equations for the following three sets of points from graph 3.

- pink: A, E, F, G, K
- turquoise: D, I, L, M, N, O, P, Q, R
- yellow: B, C, H, J



graph 3